Technology Corner

If your organization would like to help evaluate the Flagger Recertification Tutorial and Exam software program, please contact:

UDOT Research & Development Division
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Research Team Members:

UDOT Research Division

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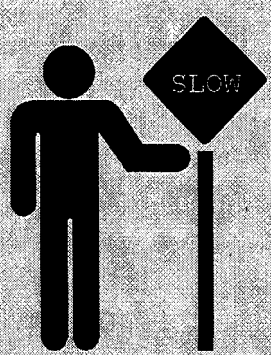


UDOT Research News

Number 98-1

UDOT Evaluates Computer-based Training for Flagger Recertification

UDOT needs highly skilled and trained employees to build, maintain, and operate quality highways. Some employees require frequent recertification for safetyandliabilityreasons. To assist in the recertification process, UDOT researchers have completed the first phase in a two-phase project to develop and evaluate computer-based training. Phase one of the project included creating a computer-aided system for flagger recertification of UDOT employees. The final phase of the project will compare the benefits of computer-based training with traditional training methods.

Traditional classroom training methods:

- ✓ Are expensive
- ✓ Require significant time investments from students and trainers
- ✓ Don't always cover diverse topics

Computer-basedtrahingmethodsprovide:

- ✓ Increased training accessibility across the State
- ✓ Cost savings on travel and per diem
- ✓ Time savings for participants andtrainers
- ✓ Individualized coverage of diverse or specialized topics
- ✓ Flexible training times tofitindividualandteamwork schedules
- ✓ A training, testing, and certification data base.
- ✓ Automatically graded tests for immediate distribution

The research team selected the Flagging Recertification Training and Exam, which are part of UDOT's Maintenance Training Academy, for this comparison study because flagging rules and regulations are frequently updated requiring annual recertification. UDOT employs approximately 600 flaggers throughout the State. Developing a computer-based training program for flagging recertification and testing would streamline the training process and potentially save time and money. This large and diverse training group also allows for extensive evaluation of the software program, and any resulting benefits of the new system.

Study Objectives

1. Develop and test the training software
2. Produce a users manual
3. Create a phase one final report desctibing the software structure, and provide information for future software modification.

Recertification Tutorial and Exam

In the first phase of the study, the research team developed the computer based training software using FLEXPERT, an authoring tool created by USU's C-BIT Laboratory. The software program has three central components:

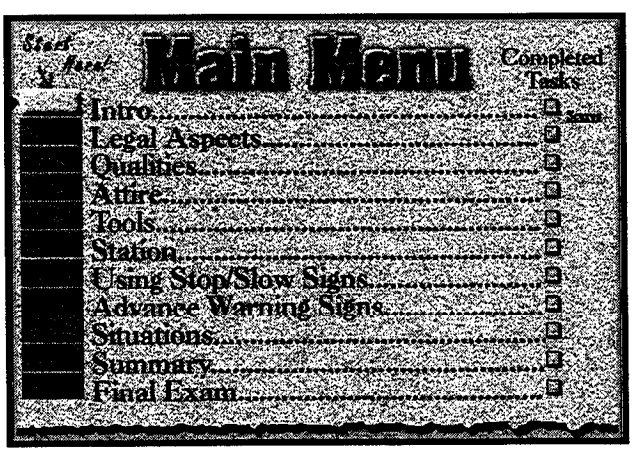
1. Intelligent controlling devices that determine the topic sequence, which allows users to individualize the session to fit their interests and needs.

2. Multimedia graphics, video, and sound which enhance the training experience by incorporating existing training video footage into the computerized system.

3. A database of over 100 exam questions ensures that all question categories are included, while maintaining random question selection. Twenty-five different questions are selected for each exam.

The program runs on most multimedia 486 computers equipped with a CD ROM and sound card.

When users begin the recertification tutorial, they see a main menu featuring eleven topics.



After users select a topic, they can scroll through additional multimedia screens containing information on that topic. Before taking the certification exam, users can review any or all of the tutorial. Once users feel they have adequately reviewed the material, they can take the exam by selecting the "Final Exam" option from the main menu. The software program immediately grades the exam and notifies users if they passed or failed. If users fail the exam, they can review the tutorial again, and retake the exam. When users pass the exam, their certification and exam results are automatically stored in a database. This database is a valuable certification tracking system.

In the second phase of the project, research teams will compare the costs and effectiveness of computer-based training with traditional training methods. If successful, this technology could be used to enhance other UDOT training programs.

If your organization needs more information, or would like to be involved with testing the Flagger Recertification Tutorial and Exam software program, please contact:

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